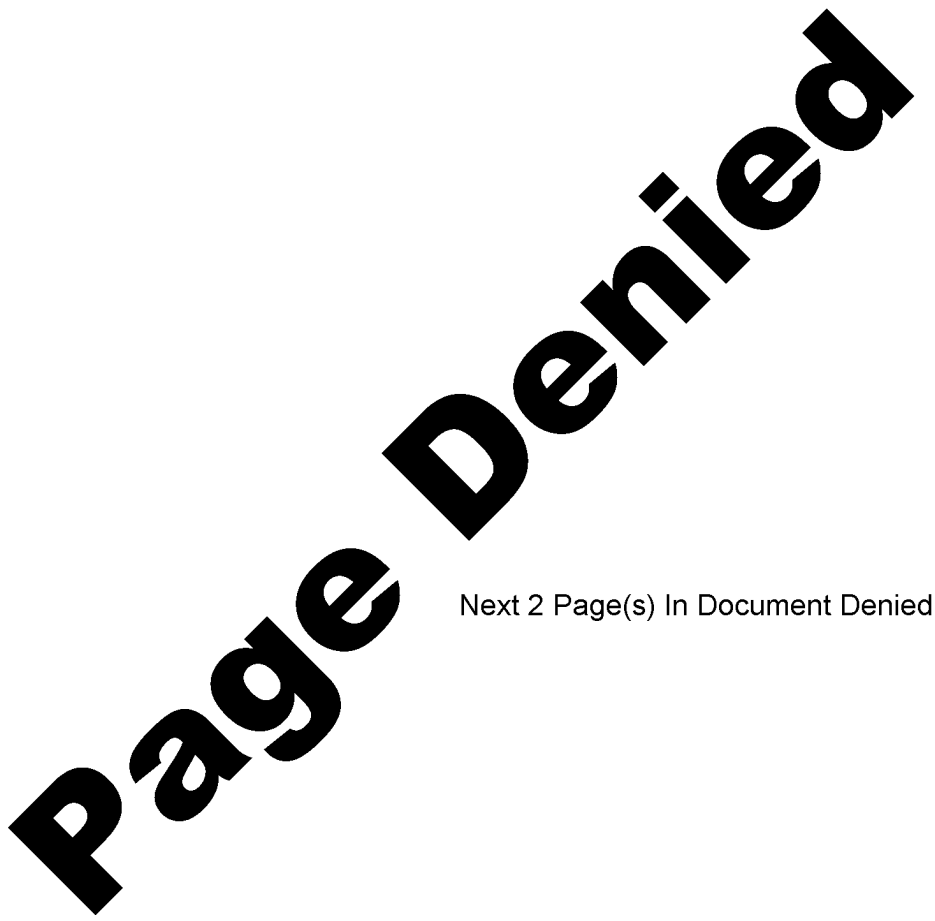

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SUBJECT

MILITARY THOUGHT (USSR): Radiation Situation or Nuclear Situation?

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Radiation Situation or Nuclear Situation?

by

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It has now become generally accepted in various exercises and war games to estimate the radiation situation arising from the radioactive contamination of the terrain. Such a requirement is found reflected in manuals and regulations.

A considerable amount of scientific research work has been devoted to, and a large number of articles, monographs, instructions, guides, and manuals have been written on, the estimation of the impact of a radiation situation on the activities of the troops and on the work of rear area installations.

Without detracting at all from the importance of a careful consideration of the impact of radioactive contamination of the terrain, personnel, and combat equipment in the preparation and the conduct of battle and operations, we would like to note that such a somewhat one-sided preoccupation with the working out of these questions shunts aside other no less important problems of protection from the casualty producing elements of nuclear bursts and their attendant phenomena. In particular, in a majority of cases many factors are not taken into sufficient consideration in decision-making at command post and troop exercises: zones and areas of destruction and obstruction; areas of mass conflagrations and flooding; extensive areas of widespread blinding of personnel of both friendly and enemy troops; and the psychological impact of these phenomena on the troops.

If we proceed from the nature of the principal theaters of military operations (for example, the Western), the mass destruction and obstructions, burns and blinding of personnel, and fires and flooding, will obviously turn into an operational factor, which, it seems to us, will vitally influence the combat actions of troops at least as much as radioactive contamination. As is known, within the borders of these theaters of military operations, inhabited areas, as a rule, are located at the junctions of road networks and contain many stone structures which are very densely situated; highways and other roads are lined with large trees; up to 30 percent of the area is taken up by large tracts of forest; and there is a dense network of rivers and canals.

If, in the first stage of the study and mastery by the troops of the problems of protection from nuclear weapons, some predominance of the problems of protection from radioactive substances had some justification, an urgent need has now arisen to thoroughly and objectively evaluate the impact all of the casualty producing elements of nuclear bursts and the attendant phenomena have on the combat actions of troops. We are convinced that this can be facilitated by changing the requirement to estimate the radiation situation to the requirement to estimate and take into account the situation arising as a result of nuclear strikes, and which can be called the nuclear situation, just as, for example, the case in which the aggregate aftereffects arising as a result of the use of chemical weapons by both sides is called a chemical situation.

Thus, a nuclear situation can be understood to mean the aggregate of phenomena arising as a result of nuclear strikes delivered by both sides and having an impact on troop combat actions and on the work of the rear. To estimate the nuclear situation means to establish the possible scale and nature of losses in personnel and combat equipment of friendly and enemy troops, the scale and nature of mass destruction and obstructions, the size of the zones and areas of possible radioactive contamination, and fires and floods; and to determine the degree of influence of all these on the combat actions of friendly and enemy troops.

Of course, the substitution of the concept "nuclear situation" for the concept "radiation situation", will create certain minor difficulties of an organizational nature and will require a redistribution of functional responsibilities between the field staffs and the staffs of the arms of troops and of special troops, as well as the services, departments and personnel holding specific appointments. Of course, there will be slight drawbacks involved, but the advantages resulting from a thorough and objective analysis of the situation and a fuller evaluation of its impact on troop combat actions are completely clear. As is evident, staffs, after estimating the nuclear (and also the chemical and bacteriological) situation and drawing the appropriate conclusions from it, will be in a position to present the commanders with sound proposals concerning the most feasible actions for troops for the conditions which have developed and the optimal, or close to optimal, variations for the protection of troops from the casualty producing elements of the weapons of mass destruction and the phenomena created by their use.

The detection of a nuclear situation, in our view, can be accomplished both by the reconnaissance of areas of nuclear strikes and the collection and processing of data received from the troops, and by forecasting a

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nuclear situation through tabular-analytical and other methods.

The reconnaissance of areas of nuclear strikes is advisably done by helicopter and aircraft crews trained for this purpose, with the use of dosimeter devices and instruments necessary for determining and fixing the scale and nature of destruction and obstructions, and of fires and floods. For the fulfilment of particular tasks of radiation and engineer reconnaissance, it also is possible to send ground or air reconnaissance patrols.

It obviously is advisable that the collection and processing of data on the use of nuclear, chemical, and bacteriological weapons by the enemy and by our troops be carried out by staffs of all levels with the use of computation and analysis stations and groups. It is necessary to reinforce the computation and analysis stations and groups with specialists from the engineer troops. For an effective forecast of a nuclear situation on the basis of existing methods of forecasting radioactive contamination, obstructions, destruction, fires, floods, and widespread blinding of personnel, it might be possible to develop a single technique and minor-mechanization means to perform calculations and to plot the situation on a map, and for algorithmic calculations as well.

Finally, one of the most important reasons favoring the "nuclear situation" concept is, in our view, that its use affords more favorable conditions for the study of the aggregate of measures to protect troops from weapons of mass destruction through the methods of military cybernetics. The fact of the matter is that the problems of the protection of troops from nuclear weapons has, for a long time, been studied and decided upon along separate lines. Scientific research institutions and organizations, and the command levels of the arms of troops, special troops, and services each studied individual questions of the overall problem of the protection of troops from weapons of mass destruction.

In order to resolve the problems of protection with a sufficient degree of effectiveness and reliability, it is necessary to resolve them as a whole, given definable quantities of criteria of the effectiveness and reliability of the system of protection based on the latest advances in cybernetics, mathematics, and computer technology, widely using 50X1-HUM mathematical methods of operations research.

Of course, we do not pretend to have presented in full all the aspects arising from the introduction of the "nuclear situation" concept. It seems advisable to us, however, to conduct a broad discussion of this question in

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the pages of the military press. An exchange of views will attract the attention of a wide circle of military specialists and researchers of various areas of the problems of the protection of troops from weapons of mass destruction, and will offer the possibility of arriving at a common understanding of them.

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